APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/405,921	09/24/99	YOSELOFF	M 307.026US1

021186   QM32/0924
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P
1600 TCF TOWER
121 SOUTH 8TH STREET
MINNEAPOLIS MN 55402

EXAMINER
ASHBURN S

ART UNIT	PAPER NUMBER
3713	

DATE MAILED:

09/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
> - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
> - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 August 2001</u> .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-26</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-26</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>7</u> .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

CONTINUED PROSECUTION APPLICATION

The request filed on 20 August 2001 for a Continued Prosecution Application (CPA) under

37 CFR 1.53(d) based on parent Application No. 09/405,921 is acceptable and a CPA has been

established. An action on the CPA follows.

CLAIM REJECTIONS - 35 USC § 103

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6,263,392

to McCauley in view of Arcade Machine Retrofit (www.cygnus.uwa.edu.au~jaycole/jaw/-

arcade.htlm. October 1996)

The affordability of personal computers (PC's) has resulted in their widespread use in all

fields.   They are a commonly employed PC's in lieu of specialized controllers that have become

obsolete, unavailable, or uneconmical. In such applications, a typical engineering problem faced is

interfacing the PC with the system's legacy components. The problems of interfacing with system

peripherals have been simplified with the widespread use of universal interface specifications such as

USB. In particular, the patent to McCauley discloses an improved method for interfacing game

peripherals to a PC via a USB.   It describes interfacing a variety of devices through an interface

control module containing predefined definitions of potential peripherals. McCauley discloses the

following features of the claimed invention:

- a) Controlling a wagering or video game with a generic computer. See col. 1:14-57.

    (Claims 1, 18, 19, 26)

- b) Employing an IBM compatible personal computer as a controller. See col. 1:14-57.

    (Claims 2, 11)

- c) Coupling a communication port to the controller. See col. 6:47-54 (Claims 1, 18, 19, 24)

d) Employing an interface assembly comprising one or more user interface devices. See col. 6:47-54   (Claims 1, 18, 19, 25)

a) Providing user interface devices including buttons and joysticks. See col. 6:23-34. (Claims 4, 13, 23)

e) Configuring an input/output (I/O) interface to communicatively couple the interface assembly to the communications port. See cols. 55-60 and 9:34-41. (Claims 1, 18, 19)

f) Employing a generic game controller comprising:

    i.   Pin connector

    ii.   Circuit board connector

    iii.   Circuit board with controls for peripheral devices

    iv.   Port connector connecting peripherals

Notably, all personal computers contain the above elements.   See col. 7:8-27 (Claim 22)

g) Communicating via standard PC communication ports including serial, parallel, and universal serial bus (USB). See col. 6:47-49. (Claims 3, 12)

h) Providing a credit management unit as a user interface device. See col. 23-34. (Claims 5, 14)

i) Selecting credit management devices from a group including coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, and smart card readers. See col. 23-34. (Claims 6, 15)

j) Providing a security device as a user interface device. See col. 4:15-35. (Claims 7, 16)

However, McCauley does not describe the following features:

b) Employing an embedded motherboard as a controller. (Claim 21)

    c) Providing user interface devices including pull-arms and touch screen displays. (Claims 4, 13, 23)

    d) Selecting a security device from a group including tilt switches, device integrity switches, and spurious electrical discharge detectors. (Claims 8, 17)

    e) Visually representing a signal provided by the controller on a display such that the display shows an image consisting of either game status information or game symbol elements. (Claims 1, 10, 19)

    f) Reconfiguring a wagering game apparatus by the following steps:

        i. Removing and replacing a special-purpose game controller with a generic game controller operatively connected to the user interface devices through an I/O interface.

        ii. Sending signals from the generic controller through the I/O interface to confirm proper communication with the user interface devices.

    (Claims 9)

Although not described by McCauley, the features listed above are known or suggested by prior references. The features fall into three categories: 1) employing peripherals specific to wagering games; 2) upgrading a specialized processor with a PC and 3) testing the upgraded system..

Wagering Game Peripherals:

    The system described by McCauley is directed towards an arcade game machine vice a wagering device. As a result, it does not describe interfacing devices specific to wagering games such as pull arms or tilt switches. Regardless, McCauley is relevant because both arcade and wagering devices fall within the same art and employ analogous equipment. The primary differences

are due to the lower security requirements for arcade machines. It would be obvious to one skilled in the art to employ the teachings of McCauley to improve a wagering game.

Claims 4, 8, 13, 17 and 23 describe user input and security devices well known in wagering devices. McCauley's arcade machine does not describe these devices. However, it does disclose interfaces for accepting inputs from user, credit, and security devices. These interfaces are fully capable of supporting the disclosed wagering inputs. It would have been obvious to one skilled in the art to employ the system disclosed by McCauley in a wagering device and interface it with standard wagering peripherals.

Claim 21 describes employing an embedded motherboard as a game controller. Personal computers are typically mounted as embedded controllers for commercial and manufacturing use. They are commercially available on standard form-factors such as PC-104 or VME. In a commercial system, such as a wagering game, it would have been obvious design choice to implement the controller as an embedded systems vice a standalone computer.

PC Upgrade:

Personal computers are a typical design choice in all fields of engineering for replacing obsolete and/or specialized processors due to their affordability and flexibly. In the field of electronic amusement devices, numerous Internet web sites describe methods of retrofitting obsolete arcade machines with personal computers. One such site is "Retrofitting a Low-Boy Arcade Machine with a Pentium-powered M.A.M.E. Setup" (Arcade). It teaches the use of a personal computer as low cost method to upgrade the specialized processors of 1970s era arcade machines. In short, the method involves removing the obsolete processor and replacing it with a personal computer executing software re-hosted onto a PC platform.

The retrofit preserves the original user interface and interfaces it with the PC-controller. It is notable that the interface is rather crude. However, it is standard practice in the general art of engineering to provide an interface unit between a controller and its components to perform signal input/output and conditioning. Consequently, one skilled in the art would rely on ARCADE to suggest using a PC for an upgrade, but look to other art for teachings on interfacing game peripherals to a PC. In view of ARCADE, it would be obvious to employ the teachings of McCauley in a commercial wagering game upgrade effort.

PC Upgrade Testing:

It is a common necessity to upgrade obsolete processors for faster, more capable systems. In every upgrade effort a primary concern is interfacing the new system with the original hardware and software. Such an effort typically requires an engineering effort to interface the new controller with the "legacy" systems. Subsequently, testing is required to ensure the entire system operates as specified. The amount of testing varies in proportion to the complexity of the system.

Large system development and upgrade projects require extensive test regimes to ensure all components not only function individually, but also as a whole system without mutual interference. Consequently, these efforts require complex data collection processes. Part of this process is determining how the raw data is processed to produce a meaningful output. Toward that end, test data is generated in every conceivable format including real-time, graphic displays of hardware and software variables. For example, in an aircraft, one might create a graphic display of flap deflection based on a signal commanded from an upgraded flight control computer. Alternatively, one may generate a display list of outputs variables from a navigation system in response to a commanded GPS position. In the testing of any system, it is a standard technique to command a known input to a system, and observe the output using the visual display of information.

The same standard methods would be used in a relatively simple system such a wagering device. Despite the different application, the engineering follows the same basic method: stimulate a known input and confirm the anticipated output. In the present invention, after upgrading the central processor, it would be obvious to transmit signals between the controller and peripherals to ensure proper operation. Notably, the claims are written broadly such that testing may be accomplished by operating the game machine and observing that the peripheral I/O's result in the desired outcome. For example, inserting coins and confirming that the credit meter display increments properly. It would be obvious to use a visual feedback to confirm proper operation of the system after upgrading the central controller.

In view of ARCADE, it would have been obvious to one skilled in the art at the time of the invention to use the teachings of McCauley to upgrade a waging game with a PC. As suggested by McCauley, the use of PC's allows manufactures to take advantage of the continuous improvements made in PC hardware and software products and thereby gain a competitive advantage in the marketplace.

RESPONSE TO ARGUMENTS

Applicant's arguments filed 20 August 2001 have been fully considered but they are not persuasive. The examiner answers the applicant's arguments below.

35 U.S.C. 112:

Previously, the examiner's interpreted the interface adapter as a universal interface capable of interfacing with any peripheral of any game manufacturer. The specification was insufficient in to describe an interface adapter capable of universally interfacing with undefined components. However, the applicant's argues that, "every element in the combination is generically known as a

component for video gaming equipment, that the ordinarily skilled artisan is capable of designing

each element with the appropriate informational content, that the individual components of

information content are known in the art, and the connection and interaction of these components are

within the skill of the artisan...". As described, the applicant is designing each component of the

system and consequently defines the interfaces. Therefore, there are no issues of interfacing with

undefined hardware and the rejections under 35 U.S.C. 112 are withdrawn.

35 U.S.C. 103:

The examiner has modified the rejection under 35 U.S.C. 103 to be based on McCauley. Due

to the examiner's reinterpretation of the amended claims, McCauley offers a better basis for rejection

than Acres.

The applicant argues that ARCADE is not a relevant reference and offers nothing reasonable

to the practice of the invention. The examiner respectfully disagrees. First, wagering and arcade

devices fall with in the same class of amusement devices and both employ similar equipment (e.g.

displays, controllers, security devices, joysticks, touch screens, card readers, coin acceptors, token

dispensers, etc.). Therefore arcade devices are relevant to wagering devices   Second, ARCADE

teaches removing an original special-purpose game controller and inserting a "universal" game

controller. ARCADE is not irrelevant simply because it is not written in legal jargon. Reworded,

ARCADE describes (1) removing a specialized game processor and power supply; (2) interfacing

user interface devices though a discrete input board employing an interface connector; and (3) and

mounting a universal controller. The operation is simple and cheap because the method employs

"universal" hardware and software.

The efficient production of systems using modular components is not a new concept. It is

commonly applied in all fields including amusement devices. In ARCADE, the hardware interface

was defined by the Japanese Amusement Machine Manufacturers Association (JAMMA). It allowed any JAMMA game controller to operate any game device containing JAMMA hardware. Consequently, installing a PC is simple matter of connecting the processor to the standard JAMMA interface. Likewise, the Multiple Arcade Machine Emulator (M.A.M.E.) emulates the original game operating systems on a PC using a modular driver oriented architecture. (See www.mame.net) Consequently, M.A.M.E allows a single device to play multiple games by treating the original game software as plug in modules. Overall, ARCADE demonstrates the replacement of a specialized controller with a PC employing "universal" hardware and software. This is essentially what the applicant is claiming. Therefore, ARCADE is an excellent reference.

The applicant argues that the examiner misconceives the invention as merely an upgrade in processor capability instead of a new architecture. The examiner respectfully disagrees. He is responding to the applicant's claims describing the removal of a special purpose processor and insertion of a universal processor (e.g. claim 9). This certainly falls within the realm of an upgrade. Consequently, the examiner is not off-track in discussing the topic.

Alternatively, the applicant's claims are broadly drawn such that they can be interpreted as an upgrade. More so, they are not defined over the field of general computing devices. There are many references that provide underlying intelligence that can be used in the design and implementation of general computing systems. The invention is not differentiated merely because the peripherals or software are wagering device specific.

For the reasons stated above, the examiner finds the applicant's arguments unpersuasive. The rejection is maintained.

CONCLUSION

The following prior art made is considered pertinent to applicant's disclosure of record, but

not relied upon:

U.S. 6,126,548 to Jacobs et al.	U.S. 5,809,329 to Lichtman et al.
U.S. 5,984,786 to Ehrman	U.S. 5,702,303 to Takemote et al.
U.S. 5,444,642 to Montgomery et al.	U.S. 5,935,224 to Svancarek et al.
U.S. 6,279,124 to Brouwer et al	U.S. 5,991,546 to Chan et al.
U.S. 5,497,490 to Harada et al.	U.S. 5,848,250 to Smith et al.
U.S. 6,044,428 to Rayabhari	U.S. 5,671,351 to Wild et al.
U.S. 6,269,474 to Price	U.S. 6,134,677 to Lindsay

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Steven Ashburn whose telephone number is 703 305 3543. If attempts to reach

the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can

be reached on 703 308 1148. The fax phone numbers for the organization where this application or

proceeding is assigned are 703 305 3590 for regular communications and 703 308 3579 for After

Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703 308 1078.

Steven Ashburn
September 19, 2001

MICHAEL O'NEILL
PRIMARY EXAMINER